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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,446	05/09/2001	Kurt C. Chang	CHKUS	5136

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EXAMINER	
PATEL, SHEFALI D	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/852,446	CHANG, KURT C.	
	Examiner	Art Unit	
	Shefali D Patel	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,13-16,20,21 and 27-29* is/are rejected.

7)☒ Claim(s) *9-12,17-19,22-26 and 30-33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 14, 20-21, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Crook (US 5,452,407).

With regards to **claim 1** Crook discloses a method for three-dimensional (3D) shape and size measurement of a 3D body surface (measurement data of a human femur 84 as seen in Fig. 5) comprising the steps of: providing a 3D scanner (CT scanner, scanning apparatus 40, col. 3 lines 19-20. CT scanner scans in 3D as disclosed at col. 1 lines 36-40); providing a processor (computer 44, col. 3 line 21); providing a 3D Computer Aided Design (CAD) system (CAD system 46, col. 3 line 21); scanning in three dimensions with the 3D scanner at least a portion of the 3D body surface (scanning with a scanner 40 a part of at least a portion of a patient (having 3D body surface) undergoing surgery as disclosed at col. 3 lines 26-30); creating a data file representative of the 3D body surface (this image data is stored in a computer storage, col. 3 lines 32-35); processing the data file with the processor (the computer, processor, 44 processes the data file stored, col. 3 lines 38-46); importing the data file into the 3D CAD system (image data files is send to CAD system at col. 3 lines 36-38, 46-52); employing the 3D CAD system relative to the data file to define and record 3D measuring data relative to at least a portion of the

3D body surface (CAD data relative to the image data file defines and record the 3D measuring data of a 3D body surface at col. 3 lines 56-66); and employing the 3D CAD system to exploit the 3D measuring data (once the device is done rendering the 3D object using the system 48, the data is being send, given, (i.e., exploit) to a surgeon for further use at col. 4 lines 1-6)). NOTE: the process is clearly seen in Figure 3 at elements 40, 42, 44, 46, etc. in a given flow.

Claim 20 recites identical features as claim 2. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 20.

With regard to **claim 6** Crook discloses defining at least one girth (i.e., human femur) shape with a planar section of the 3D surface (See, col. 5 lines 62-66).

With regard to **claim 14** Crook discloses adding 3D shape definition points to the 3D body surface for identifying and defining measurement guidelines and landmarks (this done by a processor and CAD with a help of a surgeon at col. 4 lines 26-48).

Claim 21 recites identical features as claim 14. Thus, arguments similar to that presented above for claim 14 is equally applicable to claim 21.

Claim 27 recites identical features as claim 6. Thus, arguments similar to that presented above for claim 6 is equally applicable to claim 27.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crook in view of Dimsdale (US 6,246,468).

With regard to **claim 2** Crook discloses a method for 3D shape and size measurement of a 3D body surface as disclosed in claim 1 above. Crook does not expressly disclose the processor comprising aligning captured 3D XYZ point cloud data sets, patching areas with missing 3D XYZ point cloud data, and filtering and deleting noisy data. Dimsdale discloses aligning captured 3D XYZ point cloud data sets, patching areas with missing 3D XYZ point cloud data (See, col. 8 lines 11-13, lines 65 to col. 9 lines 1-13), and filtering (col. 37 lines 25-27, 44-45, 48) and deleting noisy data (col. 25 lines 19-21). Crook & Dimsdale are combinable because they are from the same endeavor (i.e., creating 3D model of an object to measure certain feature about the object). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invention of Crook and Dimsdale. The suggestion/motivation for doing so would have been obvious because point could data is necessary for CAD system for having to indicate a location of a corresponding point on a surface of the object to create a model and filtering to reduce noise to have better data set for precise results as suggested by Dimsdale at col. 2 lines 33-41. Therefore, it would have been obvious to combine Dimsdale with Crook to obtain the invention as specified in claim 2.

With regard to **claim 3** Dimsdale discloses processing the data file with the processor further comprises merging the data to create a polygonal mesh of the 3D surface (mesh is created as seen at col. 25 lines 7-13).

5. Claims 4-5, 7-8, 13, 15-16, and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crook in view of Croyle et al. (hereinafter, "Croyle") (US 5,530,652).

With regard to **claim 4** Crook discloses a method for 3D shape and size measurement of a 3D body surface as disclosed in claim 1 above. Crook does not expressly disclose the steps of creating a data file representative of the 3D body surface and processing the data file with the processor are being dependent in detail on fir requirements of a garment. Croyle discloses the steps of creating a data file representative of the 3D body surface and processing the data file with the processor are being dependent in detail on fir requirements of a garment (See, col. 3 lines 26-31). Crook & Croyle are combinable because they are from the same endeavor (i.e., creating 3D model of an object to measure certain feature about the object). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invention of Crook and Croyle. The suggestion/motivation for doing so would have been obvious because having a detail on fit requirements of a garment would help a user determine their correct size and ultimately make a choice on a garment without having to give measurements in person as suggested by Croyle at col. 1 lines 21-24; col. 2 lines 3-9. Therefore, it would have been obvious to combine Croyle with Crook to obtain the invention as specified in claim 4.

With regard to **claim 5** Croyle discloses the fit requirements of the garment comprising a loose fit requirement (loose fit requirement measurement is taken by the rotating system as disclosed at col. 3 lines 26-47) and a tailored fit requirement (See, col. 1 lines 48-53).

With regard to **claim 7** Croyle discloses defining plurality of girth shapes with planar sections of the 3D body surface (person's leg portion or the entire body is being scanned for measurements at col. 3 lines 33-48).

With regard to **claim 8** It would have been obvious matter of design choice to modify the Crook or Croyle reference by having further comprising determining a center point of each of at least some of the plurality of girth shapes since applicant has not discloses that having to determine a center point of each of at least some of the plurality of girth shapes solves any stated problem or is for any particular purpose and it appears that the Crook's and Croyle's invention would perform equally well.

With regard to **claim 13** Crook discloses a 3D body surface including defining a hip girth whereby the hip girth can be used as a reference plane (See, col. 5 lines 68 to col. 6 lines 1-2).

Claim 15 recites identical features as claim 4. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 15.

With regard to **claim 16** Croyle discloses creating reference points that are spaced from the 3D shape definition points on the 3D body surface, creating 3D curve lines using the reference points and forming 3D garment pattern pieces using the 3D curve lines as seen in Figures 2 and 5.

Claim 28 recites identical features as claim 7. Thus, arguments similar to that presented above for claim 7 is equally applicable to claim 28.

Claim 29 recites identical features as claim 8. Thus, arguments similar to that presented above for claim 8 is equally applicable to claim 29.

Allowable Subject Matter

6. Claims 9-12, 17-19, 22-26, and 30-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art to Crook, Dimsdale and Croyle are directed to a method for 3D shape and size measurement of a 3D body surface as disclosed in an independent claims 1 and 20.

However, the closest prior art fails to disclose anything about determining the center point of each of at least some of the plurality of girth shapes comprising determining opposing extreme points of each girth shape in at least two perpendicular orientations, connecting the extreme points with lines comprising an X dimension line and a Y dimension line, and defining where the lines intersect to be the center point as disclosed in claims 9 and 30. Further, the closest prior art fails to disclose the step of employing the 3D CAD system to create garment patters comprising creating automatic custom-made garment patterns by employing pre-selected spatial relationships between the 3D garment pattern pieces and the 3D shape definition points to adjust locations of the reference pints automatically to maintain the pre-selected spatial relationships in response to changes in locations of the 3D shape definition points as disclosed in claims 17 and 22. It is for these reasons in combination with all the other elements of the claim that claims 9, 17, 22, and 30 would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims. Claims 10-12, 18-19, 23-26, and 31-33 are allowable for the same reason as claims 9, 17, 22, and 30.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,778,177; US 6,553,138; US 5,966,310.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DANIEL MARIAM
PRIMARY EXAMINER
April 30, 2004

Shefali D Patel
Examiner
Art Unit 2621